

FOLIO

UNIVERSITY OF ALBERTA
2 SEPTEMBER 1994

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Bernice Higgins, left, and Mary Blagdon, centre, former U of A grads who returned this summer to enroll in the new cost-recovery Master's Program in Speech Pathology, chat with program coordinator, Liz Webster, at an end-of-term reception for participants.

New cost-recovery master's program a resounding success

Speech pathologists applaud U of A for meeting needs

By Judy Goldsand

Ninety former graduates of the BSc program in Speech Pathology and Audiology returned to the University of Alberta during July and August to study for a master's degree in a new short-term cost-recovery program. Tuition fees in the range of \$2,000 per course were no deterrent, as the enrollment was more than four times that expected.

"Yes, the fees are high," said Mary Blagdon who works as a speech pathologist in Dryden, Ontario, "but it's better than taking two years away from a job to go back to school." Registrants, whose experience ranges from one to 20 years in the profession, came from all parts of Canada and from as far away as the Yukon.

A national move to the master's degree as an entry level requirement for the profession and the discontinuation of the U of A's

baccalaureate program prompted the demand for master's level study. The Faculty of Rehabilitation Medicine responded to requests from speech-language pathologists in Alberta and elsewhere by developing this bridging program.

The program will run for six summers (to 1999), said its coordinator, Liz Webster, who also works as a speech pathologist at Glenrose Hospital. Participants are working hard, she said, but are also enjoying the chance to meet old friends and new colleagues.

The program offers a flexible course-based curriculum with no clinical practicum requirement, so potential students may adapt the program to their individual schedules. Two three-week terms will be held each summer, and students may take up to two courses per term. The July term in

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Professors to advise Premier Klein on Quebec election

Tupper co-chairs advisory group

By Elsa Roehr

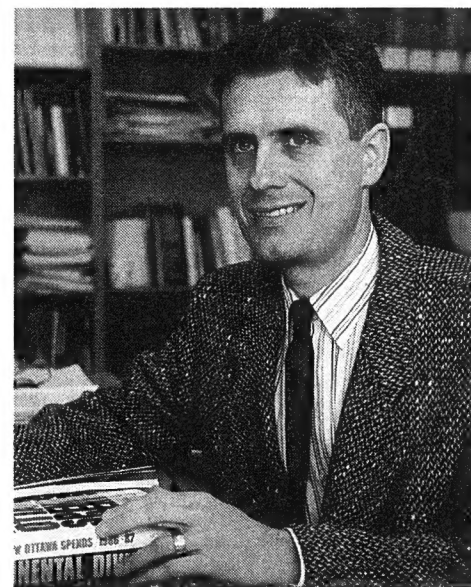
Political Science Professor Allan Tupper is co-chair of an advisory group that includes three other professors from the University of Alberta. The group will advise Alberta Premier Ralph Klein on the possible outcome and implications of the Quebec election.

Dr Tupper, who is also Associate Dean of Arts, co-chairs the committee with Oryssia Lennie, Deputy Minister of Alberta Federal and Intergovernmental Affairs. The other U of A members of the team are Tim Christian, Dean of Law; Paul Dube, Romance Languages; and Ken Norrie, Economics. The four make up half of an eight-professor committee that includes three academics from The University of Calgary and one from the University of Lethbridge.

The group will not produce a written report. Rather, members will give the Premier their views and insights. Academics are often seen to be living in a theoretical world, but Dr Tupper said it is exactly this perspective Klein is seeking. "This is what he wants - a different viewpoint," he said. The advisory group is not offering competitive advice. Rather, it is giving a different, long-term picture; an objective viewpoint that is rooted in solid observation and analysis. Dr Tupper noted, "Mr Klein took the initiative on his own, so he takes it seriously."

Chancellor Lou Hyndman is pleased with the Premier's request and in the U of A's role in the committee. "This initiative enables us to offer our collective insight into the development of public policy in key areas," Hyndman said. "As well, it provides an opportunity to the University to profile to the wider community the excellent work we do."

That profile has extended right across the country. "There has been a great deal of interest in this initiative," said Dr Tupper. "We've had about 60 requests for interviews, including many from Ontario and Quebec." Part of the reason is the emer-



Allan Tupper

gence of Mr Klein as a potential player in future national events, and part is the novelty of the move for Klein. "This is a very unusual initiative for him," acknowledged Dr Tupper.

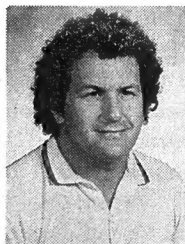
Not unusual for the cost-conscious Premier is that none of the committee members are being paid for their advice. "It is very important to the Premier and to the committee that people know we are not getting any remuneration," Dr Tupper said.

Chancellor Hyndman sees potential in the advisory committee concept: "I would like to see the concept expanded in future with a continuing series of ongoing projects involving public policy issues being developed with municipal and provincial and federal governments."

The committee members from The University of Calgary are: Roger Gibbins, Political Science; Tamara Palmer Seiler, Director, Canadian Studies; and David Taras, Associate Dean, General Studies. Peter McCormick, Political Science, is from the University of Lethbridge.

Chinook wins 'man-machine' world checkers championship

By Dinah Gray



Jonathan Schaeffer

Chinook, the software brainchild of checkers and computer whiz Jonathan Schaeffer (Computing Science), has won the title of "man-machine" world checkers champion after an 11-day

competition in Boston which ended 25 August.

The win is bittersweet for Dr Schaeffer. The only real competition for the software program was Marion Tinsley, the reigning world champion. Unfortunately, Dr Tinsley had to withdraw on the third day of competition due to ill health.

Don Lafferty, ranked number two in the world, agreed to continue the challenge, which ended in a draw. To win the title, Lafferty had to win the competition.

The unexpected replacement meant Chinook was not programmed to play against Lafferty. "We didn't bring any records of the games we played against him in the past," says Dr Schaeffer.

Saddened by the illness of his good friend and competitor, Dr Tinsley, Dr Schaeffer is hoping for a rematch soon. "It is still a milestone," says Dr Schaeffer. "No one would want to race against a car or compete in weightlifting with a forklift. But, in the intellectual domain, the machine is showing its ability to dominate. It's an ability that keeps growing."

Federal government raises loan limits for postsecondary students

Full-time weekly loan limits go from \$105 to \$165

By Michael Robb

The federal government has increased loan limits on Canada student loans, effective 1 August.

Full-time weekly loan limits will rise from \$105 to \$165—an increase of 57 percent. And the ceiling on part-time loans will rise from \$2,500 to \$4,000.

"Loan limits have been increased to reflect the growth in education costs borne by students," says Human Resources Development Minister Lloyd Axworthy. "The new *Canada Student Financial Assistance Act* will improve access to postsecondary education for students and help ease the transition from school to work."

University of Alberta Students' Union President Suzanne Scott said, "We're happy about this; it recognizes that our expenses have gone up." However, she pointed out that the province has also increased its loan limits, but reduced its grants to students. Students will end up owing more money at the end of their studies, she said.

Becky Lore, financial information coordinator for the Student Financial Aid and Information Centre, said the federal loan limits have been frozen since 1984. The increase means students who are eligible for the full-time weekly loan limit would receive \$5,610 for 34 weeks. At the \$105 weekly rate, they received \$3,570.

As well as increasing loan limits, the increased federal government assistance will include interest subsidies, deferred grants for students with high debtloads, and special opportunity grants for students with disabilities, high-need part-time students and women in certain doctoral studies.

The Act includes provision for new financing arrangements with lenders to provide all eligible full-time borrowers with loans and income-sensitive repayment terms. It also allows the federal government to pilot income-contingent repayment loan schemes. That concept was rejected last year by the provincial government when it released its new tuition fee policy.

The concept, however, hasn't been rejected in other parts of the country. The Ontario Government's Ministry of Education is holding a symposium on the feasibility of income-contingent repayment schemes. Representatives from across the country are being invited to attend the 22-23 September meeting. Lore will be among them.

The new federal measures will be phased in during the new year in cooperation with provinces. A provision allowing provinces and territories to opt out of the federal program and receive compensation to operate their own student loan schemes remains under the new Act.

It's expected about 280,000 students will receive Canada student loans next year. At the U of A, about 30 percent of the student body receives some government loan and/or grant funding. Last year, about 10,000 U of A students had Alberta provincial student loans.

'Eaton's 2000: A vision For Our Future'

John Eaton to deliver Distinguished Lecture in Retailing and Services

By Michael Robb

At the turn of the century, *Toronto Star* reporter Joseph Atkinson asked Timothy Eaton, "At a time when department stores are under severe attack, what do you intend doing about it?" "I'm going to keep store," the successful storekeeper responded.

Indeed, more than 90 years later he and his successors can claim to have done just that—and rather successfully, too. The huge retailer, which employs about 25,000 people, has just opened new stores at Edmon-

ton's Southgate Mall and Millwoods Town Centre.

One of Timothy Eaton's successors, the current chairman of the board of Eaton's of Canada Limited, John Craig Eaton, will deliver this year's Distinguished Lecture in Retailing and Services, outlining the company's vision for the next century of business. "Eaton's 2000: A Vision For Our Future", will take place 22 September, 3:30, in the main dining room of the Faculty Club. A discussion period and reception will follow the speech.

Faculty, students and members of the business community are invited to attend. RSVP by 13 September, to Office of Community Relations, Faculty of Business, 492-2348.

Famed Egyptologist to lecture on Giza finds

Revelations from sacred chamber of Grand Pyramid

By Elsa Roehr

After millennia of silent vigilance, the Grand Pyramid at Cheops has finally yielded the secrets of its long-sought sacred chamber.

Zahi Hawass, renowned Egyptologist and director general of the Giza plateau, Egypt, offers a rare opportunity to learn about this exciting discovery as he compares its tale of kingly death with that of daily life revealed by recent excavations of the workers' village at Giza.

The lecture, part of the Provincial Museum's *Time Traveller* series, will be held in TL-11 Tory Lecture Theatres (Tory Turtle) on 9 September at 8 pm.

Dr Hawass teaches courses in ancient Egyptian culture and archeology at the

Alexandria University in Egypt, and lectures widely throughout the United States and Egypt. He has directed many excavations in Giza and other locations in Egypt as well as South Yemen. His list of consultations includes the Carnegie Museum of Natural History, *National Geographic* magazine, and "The Pyramids," a televised documentary produced by the Unicorn Project and funded by the National Endowment for the Humanities.

This is a one-time-only event with limited seating. Tickets are available in advance at the Museum and the Tory Turtle the evening of the lecture: \$8 for adults, \$6 for students. Call 453-9131 to reserve tickets.

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Folio's mandate is to serve as a credible news source for internal audiences by communicating accurate and timely information about issues, programs, people and events.

DEADLINES:

Notice of coming events: 9 am three weeks in advance of event. Classified advertisements: 3 pm one week before desired publication date. This date also serves as the deadline for cancellation of advertisements. Advertisements cost 40 cents per word with no discount for subsequent insertions. There is a limit of 40 words and a minimum charge of \$2.00. Advertisements cannot be accepted over the telephone. All advertisements must be paid for in full at the time of their submission.

Display advertisements: 3 pm Friday, seven days before desired publication date. Camera-ready artwork is required to size, complete with halftones if necessary. Call 492-0436 for sizes, rates and other particulars.

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Cost-recovery master's program

Continued from page 1

1994 was held in Calgary. Requirements vary somewhat, but generally the master's level degree will require five professional courses and three options. Approved options may be taken at other universities.

Bernice Higgins, of Victoria, said she plans to take the program over five years because a three-week period each summer away from work and children interferes least with her life.

In offering this course, the University has been responsive to the needs of its

former graduates, said Paul Pearlstone, Associate Registrar and Director of Records. He had high praise for Liz Webster's excellent planning and organization.

U of A has previously offered a few cost-recovery courses in Business, Engineering, and Education. Pearlstone believes the demand for cost-recovery graduate courses is "essentially limitless. The University will have to decide the extent to which it wants to be in the cost-recovery business."

CURRENTS



Want to study law?

The University's Applied Legal Studies program is once again giving people the opportunity to learn more about the law. The fall 1994 program includes introductory and criminal law, legal research and a business law course for the self-employed. These noncredit courses are held at the University during evenings and weekends. For a free brochure, call 492-5732.

Farewell for Meg Clarke

A farewell reception in honour of Meg Clarke, Director of the Development Office, will be held Wednesday, 14 September, 3:30 to 5:30 (program at 4), in the Stollery Cen-

tre, 5th floor, Business Building. Meg has accepted the position of Executive Director of Development and President of the Simon Fraser University Foundation. Contributions toward a gift may be sent to Lori Bennett, Development Office, 4th Floor, Athabasca Hall. Please make cheque payable to "Meg Clarke's Farewell".

Child Study Centre

The Department of Elementary Education Child Study Centre Kindergarten/Nursery program has limited spaces. Highly qualified staff develop learning experiences based on children's needs and interests. Call Antonella at 492-4273.

U of A cost-recovery policies

Prior to 1991, Alberta's postsecondary institutions had limited ability to provide degree programs at off-campus locations or to respond to requests for special programming needs. The constraint that provincial universities could only recover regular tuition was a disincentive. Off-campus offerings were largely restricted to regularly subsidized courses that could be offered through the Special Sessions Office, and only when communities were able to guarantee a viable number of participants.

The provincial government's revised tuition fee policy of April 1991 allowed provincial institutions to offer some programs on a cost-recovery basis.

Brian Silzer, Associate Vice-President and Registrar, heads a committee that has been developing and updating policies for cost-recovery programming. Criteria include:

- 1) programs first have to be vetted on academic grounds;
- 2) U of A is in a unique or obligatory position to offer the program;
- 3) the program can be handled without detriment to the normal on-campus delivery of the department's programs.

The latest policy paper offers guidelines for examining the academic, financial and administrative concerns, and a checklist for considering both direct and indirect costs when setting cost-recovery fees. More details are available from the Registrar's Office.



University
of
Alberta

John Hoddinott receives 3M Teaching Fellowship

Outstanding teacher longtime supporter of peer consultation program

By Michael Robb

University professors take risks in their research lives, but they're often more reluctant to do so in their teaching lives. "We're all doing experiments, putting forward theses in scholarly disciplines, and we stand the chance of being knocked down," says Biological Sciences Professor John Hoddinott.

"It's as if teaching represents an island of stability in a sea of risk," says this University's most recent recipient of the prestigious 3M Teaching Fellowship, a national award established by 3M Canada and the Society for Teaching and Learning in Higher Education to recognize university educators across the country who are committed to improving university teaching. But the botany professor points out that professors at the U of A are certainly given free reign to take a few risks in the classroom.

Dr Hoddinott, the 12th U of A teacher to receive the 3M award, admits that a lot of new teaching strategies don't work. It's no different in the world of research. "But I don't think in most instances you do harm to the students. They've always got the texts, their cohorts and a mutual support group that we sometimes underestimate," he says.

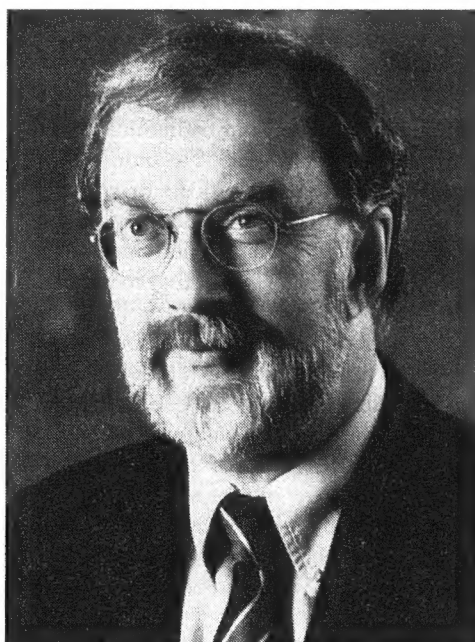
"Teaching and research are inextricably linked, and both are scholastic endeavours.

"Our real challenge is to adapt that idea of scholarship to the technological realities of our teaching environment today."

John Hoddinott

Over the years, Dr Hoddinott has earned a reputation for delivering clearly expressed and thoughtfully organized lectures—particularly in his first- and second-year courses. His teaching ratings have been exemplary.

"I followed Jim Mayo's example," says Dr Hoddinott, referring to a botany professor he took classes with as a PhD student at this University. "You walked away from Jim's classes with appropriate reference materials, good notes and worked examples of problems, and I found it extremely easy to study the discipline because of the way Jim had structured it."



John Hoddinott, 1994 3M Teaching Fellow

However, Dr Hoddinott now finds that process limiting. He's about to plunge into that sea of risk this term, after tentatively dipping his foot in it last year. "I have very highly structured course outlines which state very precisely what I expect the students to be able to do, and where to find it in the textbook. I'm going to make students more responsible for that material. I'm going to move beyond that.

"They don't need me to walk into the classroom and just read it back to them, lecturing in the medieval sense," he says, expressing his doubts about whether the old paradigm of university instruction still works—particularly when society is undergoing dramatic technological changes.

"Everything that's happening in terms of information and presentation technology is going to have an impact on us so it's going to be much more important to use the time I once spent lecturing more effectively. I want to involve my students with problem-solving in the classroom. I want to ask them questions, have them work with their peers in the classroom, work with the information and come up with answers.

"Those answers will allow me to determine whether or not they comprehend the information," says Dr Hoddinott, who is increasingly critical of pedagogical methodologies that allow students to learn material and then erase it from their memories. "I question our reliance on a lecture format for some of our courses."

Dr Hoddinott teaches large introductory classes and makes extensive use of multiple choice questions on exams. He believes that if exam questions are well-designed, teachers can test higher cognitive levels. "You can ask students to analyze and synthesize information. They have to think through the issues, and some answers are better than others. So they have to make evaluative choices. Students don't like that. They want the right answer and the rest are wrong. Students respond, 'Tell me what I need to know, and I'll give it back to you. And you give me a nine.'

"That might be a great way to learn how to use a drill press, but it doesn't make you a critical thinker," he says. "There really is a stage in student development when they move away from relying on the 'right answer', to knowing that some answers are better than others."

Last year, Dr Hoddinott's exams required more critical thinking. "But I wasn't doing enough of it in my classrooms. People were uncomfortable. I ended up with good course evaluations, but the qualitative responses were quite critical." Some, he admits, were downright rude.

"Clearly, I wasn't communicating my expectations very effectively, so if I'm going to move towards this more critical thinking approach to instruction, I have to move the students with me. I can't get ahead of the pack." He's now including more on his course outline about these student development issues. He'll be setting up an electronic bulletin board for fielding questions; students will be encouraged to answer one another's questions.

"It's a risk, and I don't know how it's going to work out."

Dr Hoddinott's efforts to improve teaching haven't been limited to his own classrooms. He's been heavily involved in University Teaching Services' Peer Consultation Program—helping his peers become better teachers. He was instrumental in the establishment of the coordinator's position at UTS, and more recently developed a training program for teaching assistants to improve the quality of laboratory instruction in the Department of Botany.

Like many academics, Dr Hoddinott has been moved by the ideas of Cardinal John Newman. "The values he espoused when he set up University College, Dublin, in the last century, resonate today. Teaching and research are inextricably linked, and both are scholastic endeavours.

"Our real challenge is to adapt that idea of scholarship to the technological realities of our teaching environment today."

3M Teaching Fellows

The University of Alberta now has 12 professors who have been awarded 3M Teaching Fellowships. Only Western Ontario has more (13). Here is a list of our 3M Fellows:

Frank Aherne (1993)

Animal Science

Roger Beck (1986)

Marketing and Economic Analysis

Graham Fishburne (1990)

Elementary Education

John Hoddinott

Botany

John Kuspira (1988)

Genetics

James Newton (1990)

Accounting

Rosemary Nielsen (1991)

Classics

Manfred Prokop (1989)

Germanic Languages

Ray Rasmussen (1987)

Organizational Analysis

Lois Stanford (1989)

Linguistics

Fred Vermeulen (1990)

Electrical Engineering

Olive Yonge (1993)

Nursing

Cleaning steam lines a noisy business

By Elsa Roehr

You may have noticed several loud noises yesterday (1 September), and seen some steam clouds rise above the roof of the Heating Plant. If not, expect to hear and see these today or over the next few days.

Plant Utilities is cleaning its heating steam lines. The lines are cleaned using a method called "steam blow." Four hundred pounds of pressure is built up in the pipes. When the lines are opened, the exiting blast of steam carries debris and residue with it. It also creates a loud noise and a column of steam that is visible over the Heating Plant.

The steam is harmless; no chemicals are used in the cleaning.

Notices around campus have warned of the noise and steam clouds, and a message is on the Campus Wide Information System (CWIS). Local residences and businesses were notified by direct mail.

Physical Plant hoped to steam blow the lines on Thursday, 1 September, or Friday, 2 September. If this has not yet been done, expect the steam blow this weekend or next week up to Friday, 9 September. The lines will not be cleaned on Saturday, 3 September, so as not to interfere with matinee performances of "Phantom of the Opera."

A paper trail of a different kind

Imagination Market working with University to reuse paper in schools

By Michael Robb

Imagination Market is on a paper chase, a chase that has led to the University of Alberta's doorstep.

The nonprofit organization, engaged in collecting industrial waste and redirecting it to potential users before it's recycled, is asking the campus community to donate obsolete forms and letterhead, still good on one side.

That material, which can be dropped off at five Quality Color Press copy sites, will then be taken to 10 local schools for their use.

Last November, Imagination Market received a \$1,000 grant from the Pitney Bowes "Green Office" fund to initiate and implement a pilot project called "Choosing Reusing". The Market collected usable paper from Edmonton businesses and took it

to five schools. Over a few months, 85,000 sheets of paper were collected.

In one 190-student school, 18,281 sheets of paper were used for copying in a single month. Using that as a monthly average, the school would save about \$1,000 a year by using redirected paper, estimates Imagination Market's educational program director, Anne Jourdan.

The Market is continuing to enlist donors in the business community, and parents within the schools are being enlisted to oversee the program. Jourdan is hopeful the program will be so successful it will serve as a model for other organizations to emulate.

"What we're trying to do is get the optimum use out of a resource before its recycled," she says.

Civil engineer develops computer-based bidding game

'SuperBid' gives students window on general contracting bidding

By Michael Robb

When general contractors bid on construction jobs, they have to ask themselves a number of key questions: Will there be a decent return on investment? Can we do the job on time? Do we have the money in place? Is the job consistent with the company's goals? There are, needless to say, many others.

Answering these questions satisfactorily, however, takes time and a wealth of

experience. Now, a Civil Engineering professor is giving senior students the opportunity to answer those questions with a computer simulation of the entire bidding process.

"SuperBid" allows students to simulate actual bidding situations and generates fictitious, yet realistic, projects to bid on. The students in a senior undergraduate course and graduate course in the Depart-

ment of Civil Engineering go head to head with one another in competition for the work.

"This teaches students what we can't really teach them in our estimating course," says Simaan AbouRizk. "The bidding process is such a dynamic process that you have to do it to see what it's all about. And, of course, one of the biggest decisions the students have to make is whether to bid or not."

The idea grew out of Dr AbouRizk's desire to improve upon a rather basic program he used as a graduate student at Purdue University. His game incorporates many of the subtleties of the process, including company overhead, profit margins, subcontractors' qualifications, complexity and risks associated with the projects. Various factors are weighted according to their importance.

The computer program generates a hypothetical construction job, say, a new concert hall, bank, warehouse or town hall. The students then pick up their bidding documents, sharpen their pencils and go to work. Once their bids are prepared, the

students' companies submit their bids by the closing dates to the game administrator, in this case a teaching assistant. The job is then awarded to the student or student group with the lowest qualified bid. Over the length of the project, the computer program gives the student company updates on the status of the project. As in the market, the company in the best financial position over a set period of time and the one that best meets its objectives wins.

"At the end of the game, we see just how effective they've been, how good their records have been kept and whether they've met their objectives," Dr AbouRizk says.

Students who have played the game have made suggestions for improving it, many of which have been incorporated. Graduate students Rod Wales, Sheldon Schroeder, Nader Chehayeb and Anil Sawhney have all had a hand in improving the game. The next step is to make the DOS-based program work in the Windows environment, a task Dr AbouRizk expects will be completed soon.

He plans to market "SuperBid" to other universities and some of the larger contracting companies traditionally interested in educational training. The funding generated will be used for other simulation programs.



Students from Toho University and Meiji College of Pharmacy examine a case study in the Faculty of Pharmacy's dispensing lab.

International links forged out of friendship

By Janet Resta

Not long ago, a scene as encouraging as it was melancholy unfolded at the Edmonton International Airport.

It confirmed to Faculty of Extension organizers of the English Language and Cultural Seminar program that an open mind and an adventurous spirit are all that are required to overcome barriers to friendship and cooperation. Tears, primed by an emotional farewell banquet the night before, began to flow for a group of people that were complete strangers just three weeks earlier.

The first group to arrive in mid-summer included students from the Health Sciences University of Hokkaido, Japan. They were soon followed by representatives of Taiwan's National Tsing Hua University and Japan's Niigata University, Toho University and Meiji College of Pharmacy. Some 137 students, staff and chaperons came to Edmonton to part of an exciting and highly rewarding experience.

"The goal of the program is to promote English language learning and establish international ties using the vehicle of language and cultural activities," explains English Language Program Director Rosalie Banko. "The students spend their mornings in small groups working to improve their mastery of English. Their afternoons are spent enjoying new recreational and cultural experiences, made meaningful and accessible through the morning's lesson."

For some groups, the afternoons held a unique form of professional development. Pharmacy students from the Meiji, Toho and Hokkaido schools participated in a variety of recreational and professional activities as guests of the Pharmacy Faculty. One of the more challenging opportunities for the students was the invitation to examine case studies, discuss recommendations

and relay them to patients in the Faculty's dispensing lab. "It gives the students insight into our pharmacy practice and offers a chance to speak English in a context that uses pharmaceutical terminology," says Pharmacy Professor John Bachynsky.

While the students worked to blend such daunting tongue twisters as methotrexate, cloxacillin and erythromycin with their growing English vocabularies, Japan's future lawyers were challenged to examine the various elements that distinguish legal and business practice in Canada. The afternoon schedule took Niigata students through a series of informational seminars, court visits, tours of local law and business firms and a moot court. Ample opportunities were also provided to make new friends and explore professional and cultural differences as guests of the Law and Business Faculties.

This combination of language learning and professional development is a growing element of the program. It has expanded in scope each year since its 1986 inception. This year U of A Nursing, Dentistry, and Business Faculties joined in, accommodating student requests for orientations and tours.

"I think one of the hallmarks of the program is the cooperation we see from other Faculties. It's extraordinary that in this climate we should see so much good support for what we do," Banko comments. "The potential is there," Dr Bachynsky adds. "We've set a good groundwork and many people would like to see the range and scope of the program develop much further."

Banko and Program Manager Mimi Hui also recognize that the program could be expanded to include other countries as well as other Faculties and are working to develop the international roster of participants.

Importation of animals, animal by-products and biologicals

Agriculture Canada has requested that researchers at the University of Alberta reduce the number of occasions they require "emergency" import permits for biologicals. The Customs and Transportation Unit, Materials Management Department, has agreed to provide a central service for researchers wishing to import biologicals. This change in the way in which import permits are obtained is intended to:

- greatly reduce the number of requests made to Agriculture Canada for emergency import permits;
- reduce the administrative load on researchers who wish to import biologicals; and
- expedite the obtaining of import permits by the adoption of an exclusive, centralized scheme.

Effective 1 July 1994, all persons wishing to import animals, animal by-products and biologicals into the University of Alberta will request the Customs and Transportation Unit to obtain any import permits that may be required. Additional information and application forms may be obtained by calling 492-4638 or faxing 492-0607.

Szalay first Canadian to receive Wilhelm-Exner Medal

Research in molecular genetics recognized

By Judy Goldsand

Being awarded the Wilhelm-Exner Medal for "excellent contributions to molecular genetics of plant-bacteria interactions, and research in bio-illuminescence" was a great honour for Aladar Szalay during the past academic year.

Dr Szalay, the first Canadian scientist to receive this medal since its inauguration in 1921, is among an exalted group of recipients that includes 14 Nobel Prize winners. "I was very humbled when I saw the list of outstanding scientists who have previously received this award," said Dr Szalay.

Three awards are given annually by the Government of Austria Association of Trade, Commerce and Technology for scientific achievements that benefit society directly or that have the potential to do so through technological development. Dr Szalay was recognized for his research involving the study of cells using light as a tracer rather than radioactivity.

The principle involves injecting a cell with genes that produce light-emitting proteins. This low light emission allows a researcher to monitor changes in a living cell without disrupting the cell function. Dr Szalay also collaborated with Siemens Corporation of Germany to develop a single-photon-counting camera capable of detecting low light signals and monitoring light emissions to provide images of cell alteration.

Dr Szalay began working with this concept "as a hobby" during his 12 years at Cornell University prior to coming to the U of A in 1987. He says he has never received funding specifically for this area of research.

"The gene is today's computer chip," observes Dr Szalay. Research in biotechnology, in the fields of science, medicine, and agriculture, has led to many new industries in the '90s.

Attracting women into careers in science

U of A team wants to determine whether special initiatives such as WISEST work

By Michael Robb

When you ask young women who participate in the Women in Scholarship, Engineering, Science and Technology program (WISEST) here at the U of A whether the six-week long program has influenced their choice of program and career path(s), most say, absolutely.

"The opportunities, experience and knowledge we gained will always be remembered as significant steps toward our careers in science," Lorraine Howard and Charlene Eriksen stated after spending six weeks in the Computing Science Department last summer.

In fact, there's plenty of anecdotal evidence to suggest that some 50 Canadian programs, designed to encourage women to study science and work in the sciences, are having a big impact. But well-controlled evaluation studies of these kinds of programs simply don't exist.

A multidisciplinary team of researchers from the sciences, social sciences and education at the U of A has been awarded \$34,873 from the Social Sciences and Humanities Research Council and Northern Telecom to conduct a three-year study on the effectiveness of the WISEST program. The team wants to identify the key factors influencing the career choices of female high school students. Researchers are hopeful their findings will be used to improve similar programs across Canada.

Team leader Helen Madill (Occupational Therapy) says the idea for the study originated from a discussion she, Margaret Ann Armour (Chemistry) and WISEST Coordinator Dorothy Tovell had. They asked themselves some fundamental questions: Do these kinds of programs really work? And do women go into science as result of having these kinds of experiences?

WISEST, the creation of the University's first Vice-President (Research), J Gordin Kaplan, has been around for 11 years. About 350 Grade 11 students have participated in the summer research program (students spend six weeks in July and August working as members of research groups).

"This is a good, stable project to study," Dr Madill says. And increasingly, adds Dr Tovell, people are beginning to believe there's a need for thorough evaluations of these different kinds of initiatives. That sentiment was often expressed at a gender and science and technology conference she attended at the University of Waterloo last year.

Programs like WISEST are seen by many as important and worth doing, and they've had to be accountable all along.

Many operate on shoestring budgets, explains Dr Armour. However, now that these kinds of initiatives have been around for five to 10 years, it's not surprising that people are stopping and trying to take stock, she says.

The research group, which also includes Craig Montgomerie (Educational Policy Studies) and George Fitzsimmons and Leonard Stewin (Educational Psychology), wants to determine whether WISEST students' experiences are more formative than those of a group of students who don't have the work experience and another group that has taken a one-day seminar here at the University.

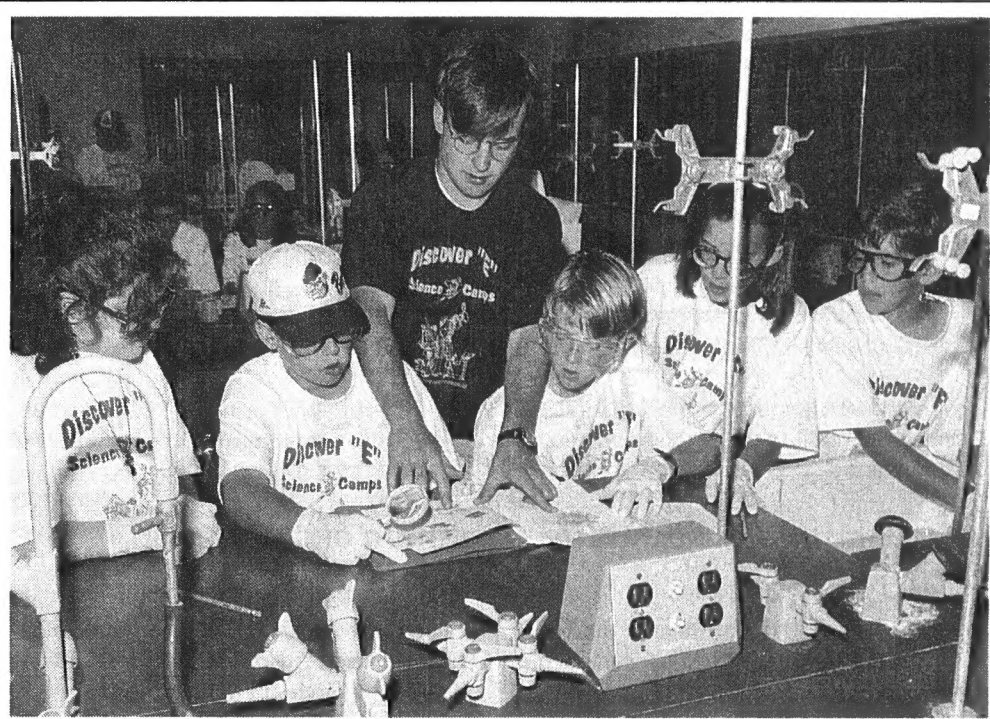
"We want to know whether WISEST affects peoples' certainty about what it is they want to study," Dr Fitzsimmons says. "If it's true that those students with the WISEST

work experience have the most stability, certainty and commitment once they get into university, that would be extremely useful information." For example, some students would not needlessly spend a semester doing something they didn't enjoy.

The SSHRC-Northern Telecom initiative—originally scheduled to end this year but extended for an additional two years—is designed to support research on improving science education in Canada. "Businesses must work closely with educators through programs such as this if we are to ensure an adequate supply of scientists, engineers and technologists to address the needs of a competitive global marketplace," says Brian Hewat, chair and CEO of Bell-Northern Research.

Discover 'E' great success this summer

Discover "E" science camps have wrapped up after—by all accounts—an extremely successful summer. The week-long camps, which were held for seven weeks during July and August, exposed children in Grades 4 to 8 to the wonders and excitement of science and engineering. There were 356 registrants, double the enrollment of 1993. Forty percent of the participants were girls. "This overwhelming interest in the camps shows the need for further expansion in 1995," says camp director Marta Dmytruk. Here, campers conduct investigative work.



Michael Robb

How can elementary school teachers enhance their science literacy?

Patricia Rowell, with SSHRC and Northern Telecom support, aims to find out

By Michael Robb

Many of Canada's elementary school teachers, uncomfortable about teaching science, simply avoid the subject. Many of those same teachers, moreover, do not know or have much contact with people whose work depends on knowledge of science and technology, says Elementary Education Professor Patricia Rowell. Those two factors conspire against science learning in elementary schools.

Dr Rowell wants to change that. She, along with research assistant Sandy Guilbert, will be conducting a two-year study to investigate ways elementary teachers can develop their scientific literacy by collaborating with others. Her goal is to strengthen teachers' ability to present science as a fundamentally human and social endeavour.

Dr Rowell will combine a group of elementary school teachers from the St. Albert Protestant School Board of Education and a group of agriculturalists, to discuss the teaching of science in schools and the teaching of concepts relevant to the lives of people who work in agriculture. "The resulting dialogue will help identify the beliefs and concerns of both teachers and agriculturalists about science learning and the social dimensions of science," explains Dr Rowell, who is a science educator with a special interest in what happens in elementary science classrooms.

She wants to develop instructional materials for use in elementary classrooms which

link science concepts and technological innovations with the work of agriculturalists. "It's important that young children be able to learn science in the context of people using it."

In recent years, there has been a growing interest in how children learn science. "We've recognized that children will learn a collection of facts to pass a test successfully in school, but when they need to draw on the understandings associated with those facts in their everyday lives, they're not able to make the connections," she says. That's why it's so important that students' teachers are able to provide encounters with science as part of the everyday lives of so many people in the community.

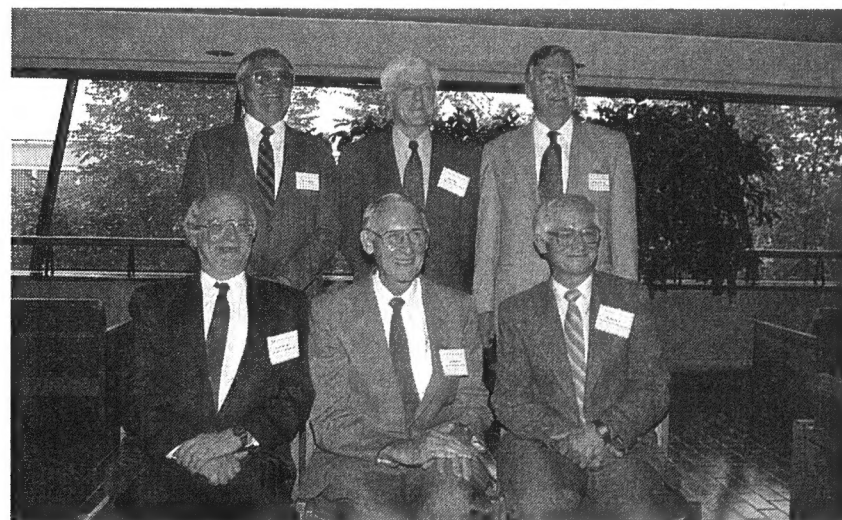
"There's a tendency in schools to identify science as something that happens in laboratories and is done by people in white coats."

The project has received joint funding (\$26,950) from the Social Sciences and Humanities Research Council and Northern Telecom. "Researchers in the social sciences and humanities sponsored under our Science Culture program are making significant contributions to identifying effective methods for improving the scientific skills and knowledge of Canadians," says Acting SSHRC President Louise Dandurand.

Dr Rowell and Guilbert will be working with representatives from the Alberta Chicken Marketing Board, Alberta Sheep and Wool Commission, Alberta Canola Producers

Commission, Hole's Greenhouses, Alberta Departments of Education and Agriculture and St. Albert Protestant School Board of Education.

Dr Rowell's study and the development of the elementary-level instructional unit also dovetails with the revisions currently being made to Alberta's elementary science curriculum.



Office of the Dean of Engineering

Structures Group honours retiring professors

The Department of Civil Engineering recently celebrated 35 years of structural engineering. A day-long symposium was held to honour the outstanding achievements of (left to right, back row) professors Joe Warwaruk, Geoffrey Kulak and Sid Simmonds, and (left to right, front row) Laurie Kennedy, Jim MacGregor and Dave Murray. The symposium included presentations from some of the continent's most prominent and respected structural engineering academics. All but Dr Kulak have retired or are soon to retire.

The best of care

Ted Tredget-led team bolsters reputation of Firefighters' Burn Treatment Unit

By Ron Thomas

Whenever his parents spoke about accidents in which people suffered burn injuries, young Ted Tredget was a rapt listener. His father was a regional manager for Calgary Power (now TransAlta Utilities Corporation) and his mother was the head nurse at the Barrhead Hospital. While it's unfortunate that there was even one such accident for them to relate, their conversation did precipitate medicine's gaining a specialist who has helped the University of Alberta Hospitals develop the leading burn treatment centre in Canada.

Treating burns is not the same thing as caring for other seriously ill patients, Dr Tredget maintains. "I guess it's within our nature that when the skin is burned there's something about that which makes it difficult to deal with. Those of us who have come to grips with that recognize that the patients are very sick and they need everything we can give them. But the acute and the long-term deformity of burn patients is something that the general public doesn't handle very well."

That Dr Tredget is eminently capable of caring for those who have been badly burned is reflected in the appointments he holds: Associate Professor of Surgery, Direc-

tor of the Firefighters' Burn Treatment Unit, Director of the Plastic Surgery Research Laboratory, and Clinical Director of the Firefighters' Skin Bank. And his accomplishments in research, clinical activity and education resulted in the University appointing him a Killam Annual Professor for 1993-94.

In the Firefighters' Burn Treatment Unit, Dr Tredget leads a team that takes great pride in easing pain, being watchful for signs of complications throughout the treatment, reassuring patients, and conducting outpatient education, for example, helping a child readjust to the classroom.

Work in the facility, which opened in 1988, is "quite stressful," Dr Tredget says. While burn injuries throughout the world are decreasing as people are educated and prevention is stressed, the Burn Treatment Unit continues to average upwards of 150 patients per year and it's not uncommon for a day to "go from quiet to super busy." Some of the staff that Dr Tredget works with have 20 years' experience in treating severe burns.

The unit looks after most of the more seriously burned people in northern and central Alberta, northern British Columbia and much of the Northwest Territories. No

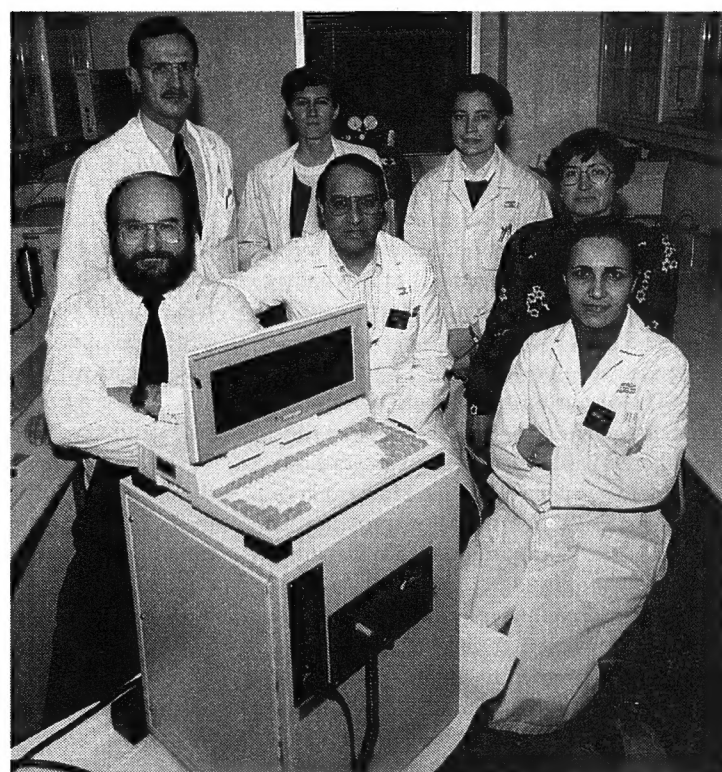
one is turned away; on one occasion the unit acted swiftly to treat a small number of burn victims who were forced to come here because the closest facility, in Vancouver, was overcrowded. Dr Tredget, who took his training at the University of Alberta Hospitals, Harvard Medical School and Massachusetts General Hospital in Boston, says, "If I was burned, I would come here over any place in Canada and most places in the United States."

On average, a burn patient is at risk for about a month, and there is usually not one operation but two or three. Cell biology helps Dr Tredget get a sense of how best to deal with burn injuries. "It's still a complex problem to which no biologic evolution can be applied. Until quite recently, most of them [badly burned patients] died."

Dr Tredget is especially pleased with the progress of the Skin Bank, which was also established in 1988. Where once it relied primarily on xenograft skin, for example, pigskin that can be bought commercially, the Skin Bank now contains a good supply of allograft skin donated by people in the HOPE (Human Organ and Procurement) Program. The skin is kept refrigerated or frozen until it is needed as a temporary graft for patients who do not have sufficient unburned skin to use as a graft. Skin has been sent to hospitals in western Canada and as far afield as California. "It's [the Skin Bank] really on a roll," Dr Tredget says.

Conventional therapies to date have been only partially successful in reducing the economic and emotional burden to patients surviving major thermal injury and other trauma, he says. The long-term goal he has set for himself is to control excessive and abnormal scarring in patients and promote healing. He's using molecular biology techniques to address the goal and, with co-investigators Paul Scott and Aziz Ghahary, was recently awarded a three-year operating grant by the Medical Research Council. Interferon and its role in controlling hypertrophic healing in burn patients will be scrutinized.

In "fierce competition" with researchers throughout North America and Europe, Drs Ghahary and Tredget have received the top grant from the International Association of Firefighters in each of the last two years.



Ted Tredget, back row, left, and Burn Unit team members Heather Shankowsky and Corilee Watters, standing with Dr Tredget, and, front row, left to right, Paul Scott, Aziz Ghahary, Carole Dodd and Maryam Varedi.

TALKS

ALBERTA HERITAGE FOUNDATION FOR MEDICAL RESEARCH

6 September, 9 am

Alfred Merrill, Department of Biochemistry, Emory University School of Medicine, Atlanta, Georgia, "Role of Sphingosine Metabolism: Implications for Cell Signaling and Disease." 207 Heritage Medical Research Centre.

GEOLOGY

9 September, 2:30 pm

Edward Sudicky, Waterloo Centre for Groundwater Research, University of Waterloo, "Contaminant Migration in Complex-Structure Porous and Fractured-Porous Geologic Media: A Simulation Perspective." 1-04 Earth Sciences Building.

INSTITUTE OF GEOPHYSICS, METEOROLOGY AND SPACE PHYSICS


8 September, 3 pm

FEM (Ted) Lilley, Research School of Earth Sciences, Australian National University, "Mohr Circles in Magnetotelluric Analysis." 631 Physics Building.

PHILOSOPHY

15 September, 3:30 pm

Richard Arneson, University of California at San Diego, "Distributive Justice and Responsibility." 4-29 Humanities Centre.

 This symbol denotes environmentally related seminars/events. If you wish to have an environmentally related event listed in this way, please contact: The Environmental Research and Studies Centre, 492-6659.

EVENTS

EXHIBITIONS

BRUCE PEEL SPECIAL COLLECTIONS LIBRARY

Until 15 November

"Beyond Words: An Exhibition of Manuscripts and Manuscript Facsimiles." Gallery hours: Monday to Friday, 8:30 am to 4:30 pm. B7 Rutherford South.

CLOTHING AND TEXTILES COLLECTION

Until 18 November

"Made in Canada—Women's Factory Clothing 1935-70"—this museum exhibit of women's clothing examines the history and characteristics of the Canadian garment manufacturing sector with specific reference to the production of women's wear.

The exhibit also discusses the nature of Canadian fashion and the possible effects of recent trade agreements upon the garment industry. Hours: Monday to Friday, 8:30 am to 5 pm. Information: Cathy Roy, 492-3826. Basement, Home Economics Building.

FAB GALLERY

Until 11 September

"Curtis Palmer—Omniopicon: Design Alternatives for a Spherical Projection System"—this exhibition is the final visual presentation for the degree of Master of Design in Industrial Design. Gallery hours: Tuesday to Friday, 10 am to 5 pm; Sunday, 2 to 5 pm; Saturday, Monday and statutory holidays, closed. 1-1 Fine Arts Building.

POSITIONS

The University of Alberta is committed to the principle of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.

ACADEMIC STAFF

SESSIONAL INSTRUCTORS, GOVERNMENT STUDIES

Government Studies, a program and administrative unit of the Faculty of Extension supplying university continuing education programs to Canadians employed in, or associated with the public sector, invites applications for sessional instructors, in the following areas: Human Resource Management, Financial Management, Management Communications, General Management Processes.

Successful candidates will have an opportunity to teach a variety of courses geared towards managers within the municipal, provincial, and federal governments, as well as those in the nonprofit sector. A PhD or professional credential or its equivalent is preferred. Individuals with a combination of education and professional

experience and a strong commitment to excellence in teaching will be considered. Preference will be given to individuals who have public service management experience and previous university teaching experience.

Please submit a curriculum vitae and the names of three references to: Dr EC LeSage, Associate Professor and Director, Government Studies, Faculty of Extension, Ring House 2, University of Alberta, Edmonton, Alberta T6G 2E2.

Deadline for applications is 23 September 1994.

SUPPORT STAFF

To obtain information on support staff positions, please contact Personnel Services and Staff Relations, 2-40 Assiniboia Hall. You can also call the Job Information line at 492-7205 (24 hours) or consult the weekly Employment Opportunities Bulletin.

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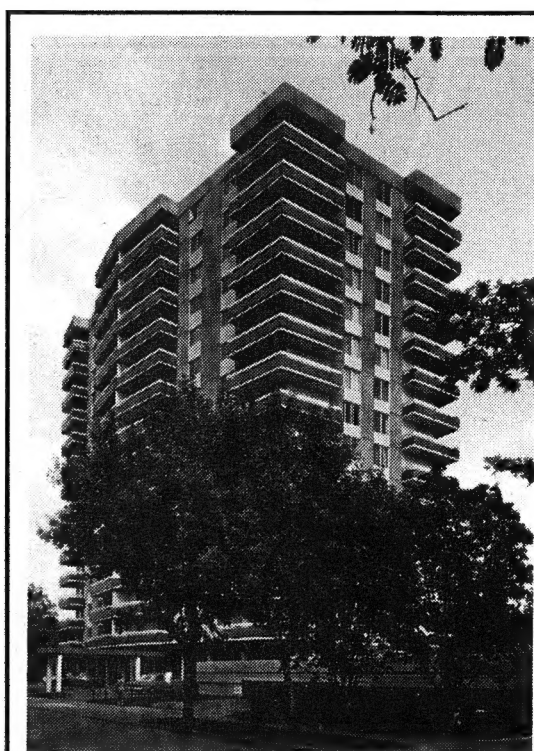
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Series Heinz Holliger, oboe

October 22
String quartets featuring
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November 5
Fireworks with
Fordyce Pier, trumpet

November 25&26
TriBACH Concert featuring
Eric Ericson with Madrigal
Singers, Concert Choir and
ProCoro at All Saints'
Anglican Cathedral

January 21
Debra Cairns, soprano
Leonard Ratzlaff, baritone
William Street, saxophone

February 18
Marek Jablonski, piano

March 4
Kuniko Furuhashi,
mezzo soprano
Helmut Brauss, piano

March 18
William H Street, saxophone
Stéphane Lemelin, piano

April 22
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In support of the Convocation
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